

**Remarks**

The Office Action dated July 17, 2008, indicated that prosecution was reopened from appeal, and new rejections were presented as follows: claims 1-30 stand rejected under 35 U.S.C. § 103(a) over Kovacs (US 2002/0131899) in view of Wu (US 6,617,565); and claims 31-37 stand rejected under 35 U.S.C. § 103(a) over Kovacs and Wu as applied to claim 26, and further in view of Herron *et al.* (US 6,222,619). In connection with presentation of the following arguments which generally traverse each of these rejections, Applicant does not acquiesce to any rejection or averment in this Office Action unless expressly indicated.

Applicant respectfully traverses the rejection of claims 1-30 under 35 U.S.C. § 103(a) over Kovacs in view of Wu. As discussed further below, the combination of teachings is unmotivated as the references teach away from the combination. As such, the rejections are improper under § 103(a) and various sections of the M.P.E.P.

The Office Action's combination alleges to add the processing circuit 105 of Wu to that of Kovacs. Applicant is unable to discern whether the Office Action is attempting to replace the DAC of Kovacs or simply to add an additional processor. Respectfully, either option would render the combination unsatisfactory for the intended purpose/operation of Kovacs. According to M.P.E.P. § 2143.01, if the proposed modification would render the primary reference unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900 (Fed. Cir. 1984).

For these rejections, the main reference (Kovacs) is intended to carry out and monitor biologic reactions and provide electrical signals to an array of sites. Kovacs' attempts to achieve this goal by providing analog signals to sample-and-hold circuit 26 for the purpose of controlling heat to the biological samples. See Paragraph 0048. The DAC of Kovacs converts digital data from RAM 20 into analog signals that are used by sample-and-hold circuit 26 (*see, e.g.*, Kovacs at Paragraph 0038). The processor of Wu is designed, among other things, to carry out feature extraction and to calculate movement between successive images (*see, e.g.*, Wu at col. 3, lines 1-38). Replacing the DAC of Kovacs with the image processor of Wu would result in a device that no longer provides the analog signals to sample-and-hold circuit 26 and the combination would no longer serve to carry out and monitor biologic reactions nor providing electrical signals to an array of sites.

As this combination would render the Kovacs reference unsatisfactory for its intended purpose of carrying out and monitoring biologic reactions, there is no suggestion or motivation to make the proposed modification. Under M.P.E.P. § 2143.01, the rejection fails.

Applicant respectfully submits that adding the processor of Wu to the device of Kovacs reference would also result in an inoperable device. With reference to the teachings in Wu, the feature extraction and calculation of movement between successive images are entirely unrelated to the biological application of Kovacs and would result in nonsensical data being generated (*e.g.*, biological sensor data of Kovacs is not taught to have any relevance to the function of the processor of Wu). The references are directed toward two entirely different applications. Applicant has considered various ways in which the cited portions of Wu and Kovacs would be combined as suggested in the Office Action, but the combination appears illogical without further explanation and/or extensive research, especially in light of the stated purposes of Kovacs and the unrelated functionality of the processor of Wu. Accordingly, the combination is illogical and would render the device of Kovacs unsuitable for its primary purpose.

M.P.E.P. § 2143.02 states that a *prima facie* case for a § 103(a) rejection requires a reasonable expectation of success for the combination, which is lacking for the instant rejections. The Office Action suggests a combination that would use the unrelated processor of Wu in a manner which would steer the skilled artisan away from the combination because of the heat problem taught by the Kovacs reference (*see, e.g.*, Kovacs at paragraph 0048). Wu's processor appears to be implemented using a relatively high-power circuit (*e.g.*, as compared to the simple DAC of Kovacs). In particular, the processor of Wu is designed to perform complex image-processing as preferably implemented using an Altera- or Xilinx-type FPGA architecture (*see, e.g.*, Wu at Col. 2:37-39). The image-processing application of Wu would result in relatively-excessive heat generated by the processor. The Kovacs' device, however, is specifically directed toward applications that involve precisely controlled heating of biological samples. *See, e.g.*, Paragraphs 16 and 48. In addition, the processor of Wu would presumably operate using a relatively high clock speed (*e.g.*, in order to perform the image processing in a reasonable time), thereby generating a significant amount of noise. This noise would further frustrate the operation of

Kovacs by affecting the signal integrity of the sensor array. Relative to the problem explained by Kovacs, the expectation of success for the combination is extremely low.

Moreover, Applicant respectfully submits that the cost of the Kovacs' device would be increased, rather than reduced, either by adding Wu's relatively-complex processor or by replacing the simple DAC of Kovacs with Wu's relatively-complex processor. To the extent that the skilled artisan would consider reducing the cost of the Kovacs' device, the Examiner's cited combination of references teaches away.

For at least the aforementioned reasons, Applicant submits that the rejections are improper and respectfully requests that they be withdrawn.

Applicant further submits that the rejection of claims 31-37 under 35 U.S.C. § 103(a) over Kovacs and Wu further in view of Herron *et al.* (US 6,222,619) are improper. These rejections rely upon the same flawed combination discussed above and the teaching based on Herron does not cure these flaws. Accordingly, the rejections are improper and Applicant respectfully requests that the rejections be withdrawn.

Support is provided in the Specification for the amendments and new claims. Regarding the amendments to various dependent claims such as claim 2 (involving microwells) support may be found for example at p.12:27 through p.13:5. For new claims 38-40, reference may be made to p.12:7-10 and p.17:18-20; see also claims 18 and 28 and Fig. 7. New claims 41-42 track with subject matter disclosed/discussed above in connection with original claim 1 and amended claim 2. In view of the above discussion and also the claim amendments, which include limitations directed toward microwells that are not found in either reference, these amended and new claims should also be deemed allowable.

In view of the remarks above, Applicant believes that the rejections have been overcome and the application is in condition for allowance. Should there be any remaining issues that could be readily addressed over the telephone, the Examiner is encouraged to contact the undersigned at (651) 686-6633.

Respectfully submitted,

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w/Enclosure